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THE CORNELL COUNTRYMAN



ARTIFICIAL LIGHT AND EGG PRODUCTION

JAMES E. RICE

CENTRAL PACKING HOUSES

N. R. PEET

THE FARM SEED CATALOG

O. W. DYNE

LEVELING FOR DRAINAGE

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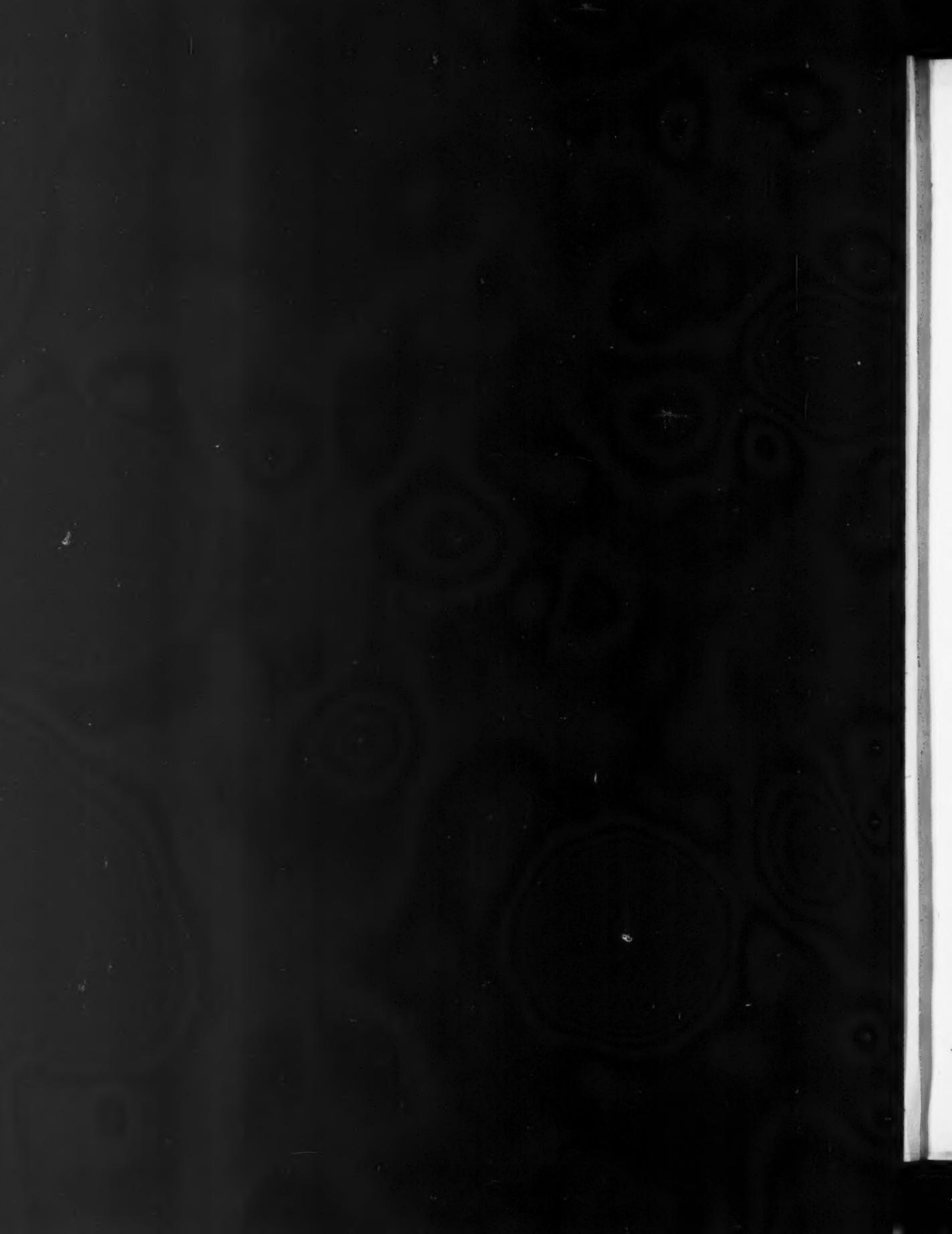
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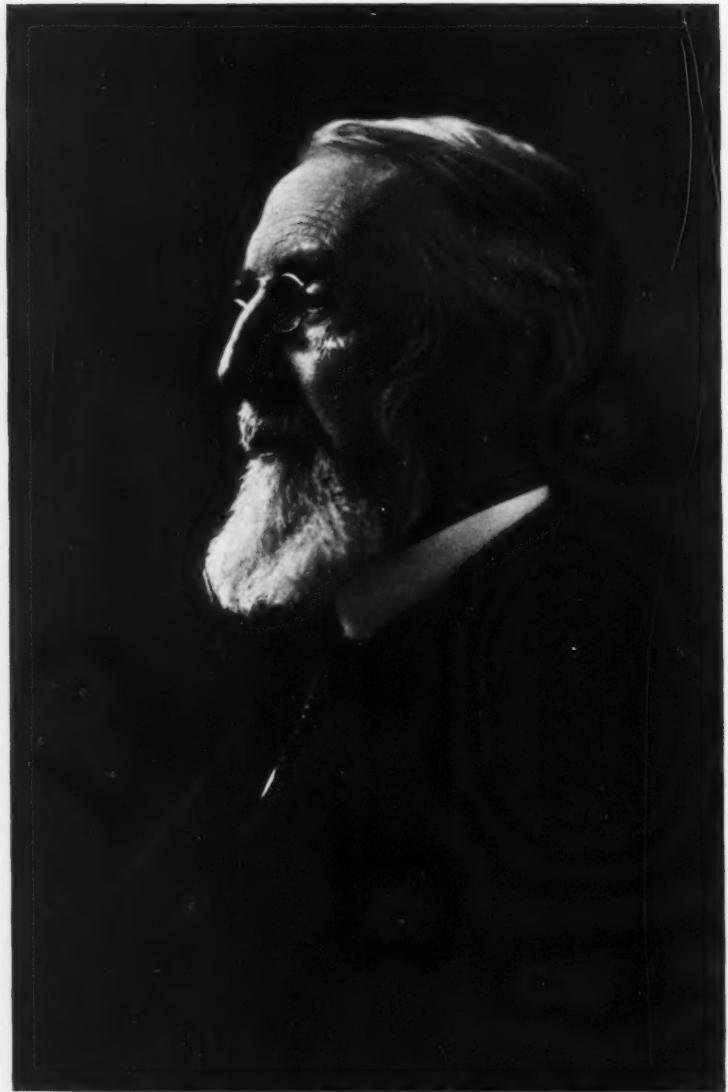
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*Thruout the sad or joyous years he wrought,
With love and wisdom meeting hate and strife;
Thrice blessed was his work; the thing he sought
Is here, the fair fruition of his life.*

THE CORNELL COUNTRYMAN

Vol. XVI

ITHACA, N. Y., FEBRUARY, 1918 [e. 1919 No. 1]

In Appreciation

IT was characteristic of the life of Andrew D. White that his influence was a reality even when he was absent. In my early years at Cornell he was abroad much of the time, yet we were all conscious of his personality, and I think we judged the University events largely as we conceived he would react to them or find pleasure in them. It was not my privilege to know him well in those days, but his interest in the work I attempted to carry was so keen, intimate, and sympathetic that I went to him with anticipation whenever I had opportunity to seek his counsel; and I think all the teachers in the University had the same feeling. His interests were so broadly human and his meeting of men so natural and unaffected that the way of approach was a delight and the reward was sure.

He knew the founder's hope for the agricultural side of the University and felt always under obligation to further it. To this responsibility he added a living personal interest of his own in the teaching of agriculture and in the farms. In a time when these subjects were little understood in their educational relations and when the way was difficult for the teacher, Andrew Dickson White was always a beacon of hope and a tower of strength. He saw a great university of generous endeavor in which all subjects were good and all men stood on their merit. This attitude has had much to do in the making of the spirit of comradeship, equality and democracy that has been a characteristic of Cornell.

To me one event stands out with special clearness. The agricultural work was approaching a crisis, due in part to the development of institutions elsewhere. I was asked to make an address at the University on the needs and the hopes of agriculture and its allied subjects. The address was printed. To my great surprise I received, in due time, a stimulating letter from Dr. White from St. Petersburg, for he was then representing the United States in Russia. That letter, probably more than anything else, committed me to the enterprise and confirmed us in a hopeful undertaking. This event, perhaps soon forgotten by him, has always stood to me as a great lesson in life, to the effect that the simple opinion of the master at the right moment may have more weight with men than any extent of public speech or official action.

Andrew D. White typified Cornell. He has left us and the world is not the same. I hope we may not only keep his memory green but that some appropriate course may be taken to preserve his spirit in the University democracy.



Leveling for Drainage Purposes

By J. C. McCURDY, C. E. '12.

Assistant Professor of Rural Engineering at Cornell University

MANY of the problems in drainage where the area affected is small could be solved by the farmer himself if he had a suitable level and level-rod and had a working knowledge of their use. The principles of leveling can be easily mastered by the man of average ability if he will spend some time in a careful study of them.

Let us first consider the spirit level: it is a hollow glass tube nearly filled with a liquid such as ether or alcohol, leaving enough space to form a bubble. This tube is not finished on the inside like a perfect cylinder but is ground to a circular curve longitudinally, grinding in this way gives a fairly constant length of bubble which, however, will vary somewhat with changes in temperature of the air surrounding it and also permits the bubble to move more slowly as one end of the tube is raised or lowered. In a carpenter's level this tube is set in a block of wood or in a metal frame; such a level, when properly supported, can be used in conjunction with a level rod to determine the difference of elevation between points not widely scattered. If, however, the points are further apart, it would be more convenient to have the level tube mounted on a telescope and both firmly set on a suitable tripod. Such an instrument is generally called the engineer's level; its telescope contains cross-hairs and lenses, the latter magnifying both the image and the cross-hairs. To use the carpenter's level place it on a firm support and raise or lower one end until the bubble is in the middle of the tube; then look along the top of the level and, if it is in proper adjustment, the line of sight will be a level line. To use the engineer's level set it firmly on the ground, giving the tripod legs enough spread for stability, and then bring the bubble to the center of the level tube, first over one pair of

opposing leveling screws and then over the other pair; the bubble should now stay in the center of the tube thruout a complete revolution of the telescope about the vertical axis of the instrument, and if the instrument is in proper adjustment, the line of sight will be a level line in any direction the telescope is turned.

Let us suppose that we desire the difference in elevation between two points A and B within range of the level; if when we hold the rod at A we get a reading of five feet, and when it is held at B the rod reading is seven feet, we know that the ground at A is five and at B is seven feet below the line of sight; and since the line of sight in any direction from the instrument is a level line, the difference in rod readings will be the difference in level between the two points, and the lowest point will be the one at which we get the greatest rod reading.

If with the instrument still in this position, we hold the rod at any other points whose difference in elevation is desired, the difference in rod readings at any two points will give their difference in elevation. To illustrate this, let us assume that this work has been done in a depression which was afterwards filled with water to the same elevation that the line of sight formerly occupied, and that we are able from the surface of the water to locate the points where the rod was held; if now we go out in a boat and measure with the rod the depth of water at the various places, the difference in depth will be the same as the difference in rod readings which we obtained from the level. We can now see that the surface of the water corresponds to a horizontal plane which would be generated by the line of sight if the upper part of the level were swung about its vertical axis.

It often happens that the points are

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LEVELING FOR DRAINAGE PURPOSES

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too far apart either vertically or horizontally to be read from a single set up of the instrument. When this happens it may be necessary to set up the instrument several times as shown on the diagram below.

In this case we desire to drain the

rod readings gives the difference in elevation between this new point, called a turning point (T. P.), and the surface of the water at the stream. The level is now taken to a new position and a backsight (8.44) taken on the turning point just used. A new turning point

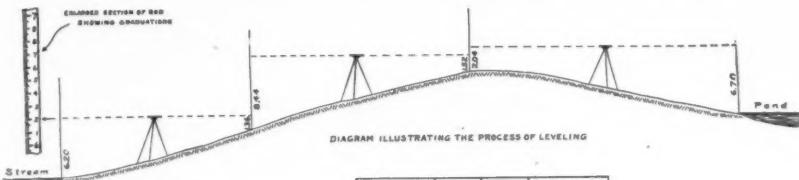


DIAGRAM ILLUSTRATING THE PROCESS OF LEVELING

Point	B.S.	F.S.	Distance in Paces	B.S. F.S.
Water Surface in Stream	6.20		.33	
T. P.	8.44	1.36	37	33
T. P.	2.04	1.52	46	39
Water Surface of Pond		6.70		44
Sum	16.68	9.58	116	116
Diff. in Elev.	7.10			

FORM OF NOTES FOR WORK ILLUSTRATED ABOVE

shallow pond on the right into the stream on the left. By looking at the diagram, it will be noted from the rod readings that the hill is too high to set the level at a point midway between the stream and pond and secure the difference in elevation by a single set-up. We would then proceed as follows:

Set up the level thirty or forty paces from the stream in the direction of the pond; hold the rod at the surface of the water near the place that we wish the outlet for our ditch; from the level we now get a rod reading of 6.20; this is called a backsight (abbreviated B. S.) and is shown in the proper column in the notes; the rodman now paces the distance from the stream to the level which is found to be thirty-three paces; this is recorded in the same horizontal line as the backsight rod reading and in the distance column marked B. S. Next, the rod is taken to some well-defined point (such as the top of a solid rock, stump, or a stake driven firmly in the ground) and held upon it; a reading of 1.36 is taken; this is called a foresight (F. S.), and the distance from the level to this point should be about the same as the distance from the level to the stream. The difference between the two

is now chosen further ahead and a foresight (1.52) taken on it.

This process is continued until a foresight is taken on the surface of the water of the pond. One should remember that it is necessary to keep the backsight and foresight distances as nearly equal as possible and that it is necessary when setting up the level the last time, to so place it that the sum of the backsight distances will equal the sum of the foresight distances for the entire line of levels. The difference in elevation between the water surface at the stream and the water surface at the pond is equal to the difference between the sum of the backsight and the foresight rod readings, and since the sum of those in the foresight column is the smallest, the pond is higher than the stream.

The carpenter's level can be used more conveniently if it is mounted on a tripod and can be swung about in a horizontal plane. A combined level holder and a tripod head* which permits this motion can be purchased from leading hardware dealers; sights attached to the level will also facilitate the work;

* Both made by the Stanley Rule & Level Co., New Britain, Conn.

(Continued on page 28)

Artificial Light, an Aid to Egg Production

By JAMES E. RICE

Professor of Poultry Husbandry at Cornell University

One of the most sensational developments of modern poultry husbandry is the discovery that by the use of artificial light as an aid to feeding and activity, the distribution of egg production thruout the year can be radically changed. So great is the change and so certain the results when artificial light is properly applied to the right kind of stock in conjunction with proper methods of feeding, that it is destined to revolutionize egg production and the market egg receipts. It will have the double effect of (1) materially increasing the production and hence the market receipts of the fall and early winter eggs and, (2) proportionately decreasing the production and receipts during the spring and early summer months. This will be a benefit both to the producer and to the consumer, since it will have a tendency to distribute the production and prices more uniformly thruout the year. A larger supply of fresh eggs in the fall and winter and less eggs at higher than normal prices in the spring and summer will have a tendency to increase consumption, due to a better quality of eggs and less extremes in the prices.

These changes to be brought about by the use of artificial light, altho important, are likely to be gradual, due to the fact that the great bulk of our egg supply is produced by farm flocks which are kept as a side line. This implies that artificial light will be used extensively at first, mostly by the large commercial poultry producers, who are largely responsible for the supply of fresh eggs during the normal season of scarcity and high prices. The experiments which the College has carried on in the use of artificial light indicate that for the person who is willing to assume the comparatively small amount of extra time and expense of installing a lighting system and who is able to handle it properly, there are several distinct advantages to

be secured, namely: a larger proportion of high priced eggs, a larger number of eggs per hen per year, a smaller amount of feed and other expenses required to produce a dozen eggs, and better general health of the stock.

This statement would look like a case of "having your cake and eating it too." In a sense this is true, but artificial light, properly applied, helps the fowls to eat more naturally and to produce more uniformly and efficiently thruout the year. The hen in our north temperate climate under natural conditions is much like an automobile running on low gear up a long steep hill and then racing down on high gear, as compared to the same machine moving at a moderate speed on a level road over smooth, easy grades. When the nature of the hen and the mechanism of the automobile are understood, the accuracy of the comparison is understood. The hen is by nature a native of a tropical country where the nights and the days are of essentially equal length, and where the temperature permits fowls to live in the open air the year round. In domestication in the north she is kept under unnatural conditions, and in all the centuries under domestication she has adapted herself to her environment—to climate, food, and close confinement—by changing her habits instead of her nature. Instead of changing her digestive system to fit a long, cold fifteen-hour night, with its long span of inactivity between supper and breakfast, she has preferred to follow the line of least resistance; that is to say, she stopped laying, tucked her head under her wing, and waited for spring to come, which was the right and sensible thing to do under the circumstances, since self-preservation is the first law of nature. In this she does not differ materially from the woodchucks and

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The Central Packing House Associations

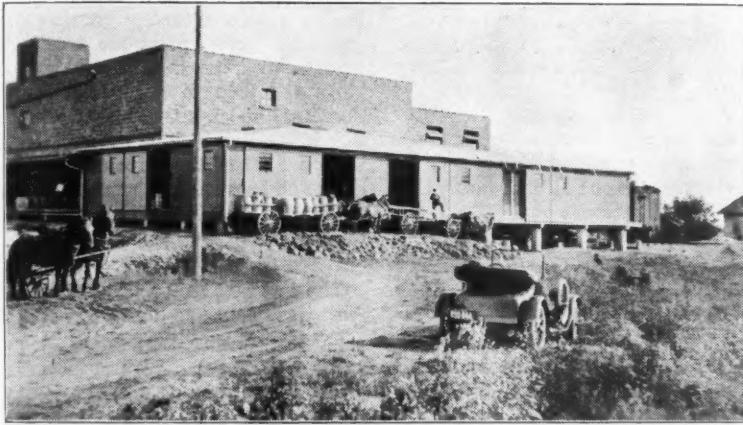
By NELSON R. PEET, '10

County Agricultural Agent of Niagara County

Editor of Cornell Countryman, 1909-10

THREE are one hundred and seventy-six fruit growers in western New York who have united themselves in the seven central packing house associations within the last few years. Four of these were organized under the auspices of the Niagara County Farm

matic plan, but almost without exception these attempts have been concerned with trying to increase the price which the fruit would bring and forgetting all other conditions. In every case where an attempt has been made to "beat the game" on selling, there has been a dis-



Central Packing House of Ransomville Cooperative Association; 50 x 100 ft.; 1 Trescott grader used; capacity 450 to 600 bbls. per day; 1700 bbls. of apples packed; cost of house, \$2500.00

Bureau during the past season. All of them have been incorporated under the new membership corporation law, and late in the summer they federated into one county association known as the Niagara District Fruit Growers Cooperative Association, Incorporated. These associations have packed centrally or sold cooperatively approximately three-fourths of a million dollars worth of fruit this year, including one hundred thousand barrels of apples, seventy-eight thousand bushels of peaches, as well as pears, grapes, and other fruits.

During the past twenty-five years numerous attempts have been made to put the fruit business on a more sys-

tematic plan, but almost without exception these attempts have been concerned with trying to increase the price which the fruit would bring and forgetting all other conditions. In every case where an attempt has been made to "beat the game" on selling, there has been a dis-

mal failure left as the tomb stone of this idea. In organizing the central packing house associations, the fruit growers of Niagara County felt that their fruit had been bringing all it was worth as it was then packed, and they accordingly organized to deliver a better grade of goods. It is also interesting to note that they have felt the selling would largely take care of itself if the fruit was properly packed.

Some of the ideas which the growers had in mind in organizing these associations are well worth mentioning.

Confidence of Consumer

Keen visioned fruit growers have watched with dismay and considerable

chagrin the lack of confidence in the growers on the part of the distributing trade and the consuming public in western New York apples, peaches, and other fruits which were put up in closed containers. Very possibly it is true that the pack of the fruit has not been getting poorer and poorer, but it is true that the packs of our competitors have been getting better and better so that a discriminating public has been gradually giving its trade on fruit to those sections of the country which pack their fruit in such a way that some confidence is warranted to the consumer of what is inside of the barrel before it is opened. It is true that the fruit which has captured this trade is almost without exception packed in central packing houses.

Uniform Grade

Those who were instrumental in starting the central packing house movement did not assume as one of their ideals that they were going to put up in all cases a better grade of fruit. There are many growers in western New York who now put up a very good pack of fruit, and they were the growers whom it was good judgment to get into the packing

house associations. Those who were fathoming the plan did hold out as an inducement that it was their hope to put up a uniform pack. In the past, fruit, especially apples, have been packed by each grower as the buyer who purchased the apples desired to have them packed. It is almost axiomatic that there have been as many packs or grades of fruit as there have been different buyers. This has resulted in a most chaotic condition which not even the apple grading law has been able to entirely systematize. In order to secure this uniform grade, each grower who is a member of a central packing house association brings his fruit to the packing house just as it comes from the trees. The association hires a manager who employs the help to grade the fruit to standards which are set by the association before the picking season. In fact this year all of the associations got together and agreed to a common standard so that the fruit in all seven associations was packed to the same grade.

Use of a Brand

The fact that such a large quantity of fruit was packed to a uniform standard

(Continued on page 52)



Central Packing House of Olcott Growers Cooperative Association at Burt, N. Y.; 40 x 70 ft.; capacity 400 to 550 bbls. per day; storage cellar in basement; loft for baskets; cost \$4000.00

Cooperation Among Plant Pathologists

By H. H. WHETZEL

Chairman of the War Emergency Board of American Plant Pathologists

Professor of Plant Pathology at Cornell University

SCIENTISTS, in general, are noted for their individualism, their isolated manner of conducting their work, and their almost complete lack of team work in the solving of their problems. The workers in the field of agriculture have proven no exception to this rule. We preach cooperation to the farmer and refuse to practice it ourselves. We approach large problems like a horde of rats attacking a large cheese and often dissipate our efforts in rending each other. In fact, the rats are more likely to dispose of the cheese than we of the problem. We stake off a claim, often the entire problem, and then for want of time, facilities, or capacity, we fail to work it out but deliver isolated bits of doubtful value or of little immediate worth. We delude ourselves with the idea that we are thus promoting the solution of the problem. The fact is that we are usually delaying it.

Cooperation and coordination are the foundations of all progress, biological, social, political, industrial, or scientific. Democracy is but another name for cooperation in government, and it will prove quite as laudable and effective in scientific endeavor. So rare is it to find two or more scientific workers uniting in the solution of a problem, that it challenges our immediate attention and elicits our wondering comment.

Cooperation has been the world's slogan during the past four years, and today we behold the peoples of the earth launching the most gigantic project in international cooperation that mankind has ever undertaken. We all realize, too, that only one thing can materially interfere with the success of the undertaking, and that is national selfishness. Consider for a moment some of the failures in cooperative undertakings to

which you have been a party or with which you have been well acquainted. You must admit that the fundamental cause of failure has been the personal selfishness of one or more of the individuals concerned therein. Shall we admit that this also has been the chief obstacle to cooperative undertakings among scientists in the past?

Scientists, while generally admitting that cooperation is desirable and profitable for other men or other fields of endeavor, are skeptical of its efficacy in their own case. They seem inclined to consider themselves a class apart, and they have been too much "apart" for their own good, the good of their profession, and the progress of the world. Many of them hold that cooperation is either impossible or undesirable. That it is neither, has been amply and repeatedly proven during the fateful years thru which we have just passed. For never before have scientific men so justified the high esteem and confidence in which they are held by the laity (and by themselves) as during the world war, and never before have they so frequently and effectively cooperated among themselves.

Because of its vital importance to the agriculture of this country, I may be permitted to set forth in its barest outlines a piece of cooperative undertaking planned and carried thru during the past year by American plant pathologists.

Desiring to bear most effectively their share of the country's burden in the prosecution of the war, they appointed in January, 1918, a War Emergency Board of eight commissioners. This board was charged with the duty of bringing about cooperation and coordination in the efforts of plant pathologists to speed up crop conservation thru

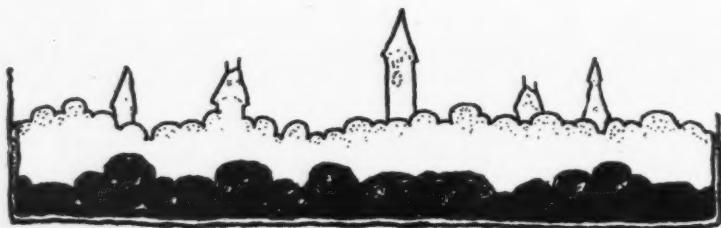
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Greetings



E are now resuming our normal college work, many months sooner than we had expected. We have passed thru a trying and glorious time—glorious in that our students and our institutions in common with the entire nation have been privileged to play an important and effective part in this war for the protection of the liberties of the world. These years of war have revealed to many minds with an unexpected vividness the immeasurable value of the higher education for men and women and the high place of colleges and universities in the affairs of the nation. The trained mind has come to the top. As we return to our teaching and to our studies there should be a new incentive for diligent work and superior scholarship. The privileges of the University student should be unmistakably clear. As we welcome our old students back and many new ones for the first time, we invite them all to the fullest realization of the opportunities that await them here.

February 1, 1919. *A. R. MANN, Dean.*



A Method of Judging Fowls for Egg Production

As Formulated at the Judging School Held at Cornell University, July 1-6, 1918, and Approved by The American Association of Instructors and Investigators in Poultry Husbandry

In order to lay well, a bird must have a sound body and be vigorous and healthy. Vigor and health are shown by a bright, clear eye, a well set body, a comparatively active disposition, and a good circulation. Further, the bird must be free from physical defects such as crooked beak, excessively long toe nails, eyelids that over-hang so that the bird cannot see well, scaly leg, or anything else that would keep the bird from seeing or getting an abundance of food.

Loss of Fat Due to Laying

A laying fowl uses up the surplus fat in the body, especially the fat from the skin, and in yellow skinned breeds this loss of fat can readily be seen by the loss of the yellow color. The different parts of the body tend to become white, according to the amount of fat stored in the body and the amount of circulation of blood thru that part. These changes occur in the following order:



HIGH PRODUCER

1. Full, bright, stiff, waxy comb and wattle.
2. Thin face.
3. Pale color of beak, eye-ring, earlobes, face.
4. Full earlobe.
5. Bright, round eye.



LOW PRODUCER

1. Small, hard, dried, scale covered comb and wattle.
2. Fat face.
3. Yellow color of beak, eye-ring, earlobes, face.
4. Shrunken earlobes.
5. Dull, snaky eye.

The vent changes very quickly with egg production so that a white or pink vent on a yellow skinned bird generally means that the bird is laying, while a yellow vent means a bird is not laying. It should be remembered, however, that all yellow color changes are dependent on the feed, coarseness of skin, and size of bird: a heavy bird fed on an abundance of green feed or other ma-

terial that will color the fat deep yellow will not bleach out nearly as quickly as a smaller or paler colored bird.

The eyering, that is, the inner edges of the eyelids, bleach out a trifle slower than the vent. The earlobes on Leghorns and Anconas bleach out a little slower than the eyering, so that a bleached earlobe means a little longer or greater production than a bleached vent or eyelid.

The color goes out of the beak, beginning at the base, and gradually disappears, finally leaving the front part of



GOOD LAYERS

1. Vent pale, large, full and moist.
2. Pelvic bones widespread.
3. Skin soft and flabby.



POOR LAYERS

1. Vent yellow, small, hard and pucker.
2. Pelvic bones blunt, not widespread.
3. Body full, hard plump.



POOR LAYERS



GOOD LAYERS

1. Shanks pale.
2. Shanks thin, and soft in the back.

the upper beak. The lower beak bleaches faster than the upper but may be used where the upper is obscured by horn or black. On the average colored, yellow skinned bird, a bleached beak means heavy production for at least the past four to six weeks.

The shanks are the slowest to bleach out and hence indicate a much longer period of production than the other parts. The yellow goes from the scales on the front of the shanks first and finally from the scales on the rear. The scales on the heel of the shanks are the last to bleach out and may generally be used as an index to the natural depth of yellow color of the bird. A bleached out shank usually indicates heavy production for at least fifteen to twenty weeks.

The yellow color comes back into the vent, eyering, earlobes, beak, and shanks in the same order that it went out, only the color return is faster. A vacation or rest period can sometimes be determined by the outer end of the beak being bleached, and the base being yellow. All color or pigmentation changes should be observed by daylight.

A laying hen has a large, moist vent showing a dilated condition and a looseness as compared with the hard, puckered vent of a non-laying hen. The whole abdomen is dilated as well as the vent so that the pelvic arches are widespread, and the keel is forced down away from the pelvic arches so as to give large capacity. The more eggs a bird is going to lay the following week, the greater will be the size of the abdomen. The actual size is, of course, influenced by the size of eggs laid and by the size of the bird.

Heavy production is shown by the quality of the skin and the thickness and stiffness of the pelvic arches. Fat goes out from the skin and body with production, so that the heavy producers have a soft velvety skin that is not underlaid by layers of hard fat. The abdomen in particular is soft and pliable. The sternal processes are very prominent and are generally bent outward. The thicker and blunter the pelvic arches and the greater the amount of hard fat in

the abdomen, the less the production or the longer time since production.

One of the finer indications, but yet one of the most valuable in picking the high layer is the fineness of the head and the closeness and dryness of feathering. The head of a high layer is fine. The wattles and earlobes fit close to the beak and are not loose and flabby. The face is clean-cut. The eye is full, round, and prominent, especially when seen from the front. The high layer is trimmer; that is, the feathers lie closer to the body, and after heavy production the oil does not keep the plumage relatively as sleek and glossy but the plumage becomes worn and threadbare.

The comb, wattles, and earlobes enlarge or contract, depending on the ovary. If the comb, wattles and earlobes are large, full and smooth, or hard and waxy, the bird is laying heavily. If the comb is limp the bird is laying only slightly, but not at all when the comb is dried down, especially at molting time. If the comb is warm it is an indication that the bird is coming back into production.

When a bird stops laying in the summer she usually starts molting. The later a hen lays in the summer, or the longer the period over which she lays, the greater will be her production, so that the high producer is the late layer and hence the late molter. The length of time that a hen has been molting or has stopped laying can be determined by the molting of the primary feathers. It takes about six weeks to completely renew the primary feathers next to the axial feathers and an additional two weeks for each subsequent primary to be renewed.

A good layer is more active and nervous and yet more easily handled than a poor layer. A high layer shows more friendliness and yet elusiveness than a poor bird. A low producer is shy and stays on the edge of the flock and will squawk when caught. A high producer one year is, generally speaking, a high producer in all other years. The above method should be applied at the end of the laying year.

The Farm Seed Catalog

By O. W. DYNES

Instructor of Farm Crops at Cornell University

THE farm seed catalog plays an important part in the dissemination of agricultural information to the American farmer. This information is not always reliable and frequently works at cross purposes with the instructions of agricultural colleges and experiment stations. To a certain class of farmers it is doubtless true that the flamboyant illustration and extravagantly worded descriptions of some well known retail seed houses are more effective, even tho often misleading, than the station publication or extension circular.

The retail farm seed house is an older institution in the United States than the agricultural experiment station, and co-operation between the two is often noticeably lacking. Both attempt to serve the farmer, but oftentimes the advice of a dishonest seedsman will nullify the teachings of the disinterested agricultural teacher or experimenter. Here are a few isolated statements from a popular seed catalog regarding speltz (properly emmer). "The feed crop of your dreams—a veritable gold mine to every grower—seems to have no climatic limitations—by sheer merit it has blazed a trail of distinction from coast to coast—it flourishes under positive neglect—grow speltz and be prosperous." The bold colorless statement of fact presented by the experiment worker that emmer has a very limited but important usefulness in portions of the western states has little effect when matched against the glowing rhetoric of these wonderful (mis) statements.

Few seed houses attempt to limit the sale of seeds to regions to which the plants are adapted. Sub-tropical plants like teosinte are enthusiastically recom-

mended for states along the Canadian boundary with statements of astonishing yields reported from the Valley of the Nile or the Island of Haitai. General observation and experimental evidence

show that the proper selection of a corn variety depends upon its somewhat limited regional adaptation. Seedsmen are well aware of this fact but often fail to supply this information to prospective customers.

The advertising and sale of certain kinds of grain that in farm practice cannot survive the competition of other sorts is all too common. This is what a certain seedsman says about his particular variety of hulless barley. "It is the most prolific fat and health producing food for hogs, cattle, and poultry extant today. For fattening purposes, it is worth from one and a half to two bushels of corn and yields from sixty to eighty bushels to the acre." All of which is interesting if it were only true. From this same seedsman comes the following appeal to the patriotism of the American farmer. "The essential duty of every farmer is to grow Billion Dollar Grass. It is one of the most tragic things in life to see farmers, intelligent farmers, carrying on their struggle, their infinite labors, their everlasting toil, fruitlessly—because of misdirected inclinations and prejudice when nature beckons them to untold prosperity, joy, and happiness by providing that wondrous of hay crops—Billion Dollar Grass."

Occasionally, seedsmen will weave a shroud of mystery around the origin of certain seeds they are exploiting, but this method of increasing sales is becoming less common because it often acts as a boomerang. Who has not heard of the

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The Farm Garden in New York State

By A. THOMPSON

Instructor of Vegetable Gardening at Cornell University

A GOOD, all-season farm vegetable garden is the exception rather than the rule, even in the best farming section of New York, yet no other similar sized piece of land on the farm yields as much profit and satisfaction as the garden. A well-kept garden is a pleasure to the whole family, but especially to those members of the family who have to answer the eternal question: "What are we going to have for dinner?" Not only is it possible to reduce the cost of the family's food by having a good garden, but the satisfaction of having a plentiful supply of fresh vegetables at hand, regardless of the market, cannot be measured in dollars and cents. Farmers often argue that it is cheaper to buy vegetables than to raise them, but they forget to take into consideration the time it takes to drive a mile or several miles to the market to buy them. Very few farmers live near enough to a city to have the

advantage of a market, and it is well-known that country stores do not keep fresh vegetables. Whether or not vegetables can be bought more cheaply than they can be raised, it is true that on far too many farms vegetables make up a small part of the diet. It is sometimes claimed that men working on the farm do not need vegetables in the diet to the same extent that office men do. Granted! But what of the women and children, especially the children? Men working on the farm may get along on a diet of salt pork, potatoes, and bread, but such a diet is certainly not the best kind for children.

Vegetables and fruits furnish a large part of the essential salts so necessary to the well being of the human system, so that the value of vegetables in the diet is a great deal more than the mere food value or money value. The need of tonics and other medicines in the spring is due largely to the lack of vege-

tables and fruits in the winter diet. If more succulent food were available, less money would be spent in doctors' fees and for medicine.

Fresh vegetables from the home garden have not been subjected to exposure on the market and are not liable to infection. Many vegetables lose their characteristic flavor within a few hours after gathering. Sweet corn, beans, peas, lima beans, and asparagus deteriorate so rapidly that it is impossible to get the highest quality unless these vegetables can be cooked soon after gathering them. It is a noticeable fact that families that have had a good garden and know its value always find time to care for it, while those families having had no such experience fail to appreciate the garden. The home garden is worthy of greatly increased attention by New York farmers.

The size of the garden depends upon the number of persons to be supplied and the character of land and vegetables desired. One-fourth to one-half acre is sufficient for a family of six and should produce enough vegetables for use throughout the year, with the exception of potatoes which are usually produced in the field. However, where land is plentiful, it is advisable to have twice as large an area as is needed for vegetables and to have one-half of it each year planted to a soil improving crop. The garden should be located near the house for convenience to the housewife and preferably of a loamy soil with a south or south-east exposure.

Plan and Arrangement of the Garden

No plan and arrangement that has ever been worked out is satisfactory under all conditions, and no one can form a plan that will exactly suit everyone else. However, a few suggestions may be of help. In general, a garden that is to produce all the vegetables needed for the family should be long and narrow with the rows running the long way. There should be no paths across the rows but a turning space kept at the ends. If the area is small, the rows might be short or run across the garden and the garden cultivated by hand. The

writer believes it is more economical to do the work by hand after the land is prepared than to use a horse. With a hand cultivator or wheel hoe, a man or boy can cultivate what needs to be cultivated at any one time in about the same length of time it would take to get the horse and cultivator ready for work. Then too, in a small garden too much space is taken up in turning a horse.

Seeds for the Garden

The seeds for the garden should be at hand considerably in advance of the planting season. Secure catalogues from reliable seedsmen, and after making a plan of the garden, select the varieties and quantities of each kind of seed needed.

The following are the approximate quantities of seed that should be purchased for a garden which is to supply vegetables for a family of four.

Bean:

Bush Lima	1 pint
Pole Lima	1 pint
Snap	1 to 2 quarts

Beet

4 ounces

Cabbage:

Early	1 packet
Late	½ ounce
Carrot	1 ounce
Cauliflower	1 ounce
Celery	1 packet
Corn, Sweet	1 to 2 pints
Cucumber	1 ounce
Eggplant	1 packet
Kale	2 ounces
Lettuce	½ ounce
Onion Sets	4 to 6 quarts
Peas, garden	4 to 6 quarts
Parsley	1 packet
Farsnip	½ ounce
Radish	1 ounce
Salsify	1 ounce
Spinach	½ pound

Squash:

Hubbard	1 ounce
Summer	1 ounce

Tomato:

Early	1 packet
Late	¼ ounce

Turnip

2 to 3 ounces

It is not supposed that any family will

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THE CORNELL COUNTRYMAN

FOUNDED 1903 INCORPORATED 1914
NEW YORK STATE COLLEGE OF AGRICULTURE AT CORNELL UNIVERSITY

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Home Economics Editors
GERTRUDE SAMPSON RUTH NYE

ITHACA, N. Y., FEBRUARY, 1918

AGAIN *The Cornell Countryman* resumes publication. We regretted beyond words the necessity of suspending last fall. But the times were such that the successful consummation of the World War demanded the concentrated efforts of the entire nation. We felt it hypocritical to continually preach patriotism and "do your bit" without following out our own precepts. So *The Countryman* locked up its office and entered the service of the Government. We did not succumb to the trials and troubles then confronting every agricultural college publication, but rather did we succumb to patriotism. We were not slackers.

However, some few words of apology are needed for those few months of inactivity. We trust that the issues yet to come will fully satisfy and please our readers, and in some manner compensate for those lost issues. We sincerely thank all our friends for their kind words and assistance, and we hope that the future holds for every one years of Prosperity and Peace.

THE number of cooperative associations increases more and more every year as their value becomes more fully realized. Older ones are being stimulated and new ones formed, often where cooperation formerly was thought impractical if not impossible. Professor Whetzel explains on page 13 what cooperation may accomplish among scientists, and Nelson R. Peet, page 11, what it may accomplish among fruit growers.

The greatest gain to the fruit growers is the confidence of the public gained in his product, due to correct packing. The individual farmer can not pack well; he does it poorly. The time must surely pass when the scrawny apples are put in the middle of the barrel where they are not seen until the barrel is opened and unpacked. That may be all right when they are so labeled, but when they are not it is poor business. The fruit grower must see to it that the fruit is packed and labeled in a manner which is reliable and which truthfully represents his product, or otherwise he does both himself and his crop a great injustice. New York apples have the flavor, and if the farmer will give them half a chance they will do the rest. Western farmers and fruit growers have the spirit of cooperation, why not New York?

PRICES obtained for farm produce the country over these past few years can not continue. Formerly the selling price in the fall was on a higher level than the cost of supplies. Now there will be an exact reverse of the case, and the crops will be sold at a lower level than the spring prices. Naturally lower net returns will result. That will occur until conditions readjust themselves.

The reason for all this is obvious: the entire cultivated surface of the earth will

again be used for producing food to meet the needs of 1920; the entire world's shipping will again be free to aid in the distribution of this food; the war forces are being demobilized and currency is bound to be deflated.

This drop in prices will not occur immediately, however. The federal commission sent to Europe to study the world's food supply reported that Europe must be fed from America's supplies until her own 1919 crops are harvested. The commission also confirmed that "crop conditions and prospects in the principal countries of the world justifies the statement that for the staple food and fiber products grown in the United States, such as wheat, meat, sugar, cotton, and wool, there will prevail a strong demand and that prices will probably continue steady and at a high level for a while."

These facts should help determine the planting in 1919.

IT is a more serious mistake than is generally realized to keep the pigs in cold and wet quarters. Under these conditions half the corn fed to them is lost. That means out of every two hundred bushels, a hundred are wasted or \$175 when corn costs \$1.75 a bushel.

When the pigs are given a warm bedding and some protection against the cold, they will soon fatten up. If they are cold and uncomfortable less food will be converted into fat as the body heat must be maintained, and if the conditions are very unfavorable even a loss of fat may occur.

THE COUNTRYMAN announces the resignation of W. C. Eldridge, the return of E. B. Sullivan and A. J. Masterman to the staff and the election of Ruth Nye, '20, of Petersburg as Home Economics Editor.

NOVEMBER 18, 1918, was the death day of Andrew Dickson White, the first president of Cornell, and the man who not only gave more freely than any one else to the University but always kept its well-being uppermost in his heart. From the time when as a freshman in the little college, rude in architecture but lovely in surroundings on the shores of Lake Seneca, he ever dreamed of a university worthy of the commonwealth and of an education, a force in the community. Cornell, he planned, was to be a realization of his dreams, and he did unto his utmost that it would be such. Such a foundation did he lay for the University and for us.

There could be no better ideal for us to have than the character and life of Andrew D. White, his clear cut mind, his passion for learning, his never-failing industry, his true combination of scholar and gentleman. Words are inadequate things with which to express our admiration. Below is a portion of a letter which shows the regard prominent men hold for him, our first president. The letter is a note of congratulation on his seventieth birthday sent to him when ambassador to Berlin by the President of the United States.

..... As a politician, as a publicist, and as a college president you have served your country as only a limited number of men are able to serve it. You have taught by precept, and you have taught by practice. We are all of us the better because you have lived and worked, and I send you not merely my warmest well wishes and congratulation but thanks from all our people for all that you have done for us in the past.

Faithfully yours,

(Signed) Theodore Roosevelt.



When college opened this fall questionnaires were distributed among the seniors to obtain a report of what kind of work they had been doing during the past summer. As a result it was found that no one had been idle, and no matter how hard the work, it had been really worthwhile. Even the girls who stayed at home took over the management of the homes either wholly or in part. Most of these were on farms, and the smallest family recorded numbered six. Girls living on farms often were what they termed "handy-men" to take the place of some man who had left for the war. Not to be outdone by those who had the advantage of living on a farm, were those girls of whom we have heard so much, the farmerettes.

Cornell University had a unit with its headquarters consisting of a vacant farm house and four tents about a mile and a half from Ithaca on West Hill. Farmers came in at about seven o'clock in the morning for these girls, who, equipped with overalls, large hats, and lunch baskets, went out to the farms to hoe, weed, or pick berries. The girls made friends among many of the farmers' families and were given a picnic by these friends at Enfield Falls. Every Cornell farmerette declares she has never had a better time than when she was "farmeretting." If necessary the camp will run next year and already many farmers have promised to support it in case it does continue.

Work in Community Kitchens and as Pupil Dietitians seemed to be most popular. The conservation work was at its height then and the administration needed many workers, and these girls did a real, patriotic work, especially in canning and drying fruits and vegetables. Some also gave demonstrations and lectures on the saving of sugar and wheat, and on the use of wheat substi-

tutes. The pupil dietitians assisted in making menus, ordering, cooking, setting up trays, and making desserts for hospital diet kitchens. Their days were long and hard, starting at six-thirty or seven o'clock in the morning and working until six-thirty or seven in the evening, with two hours off at lunch and one afternoon a week vacation. As the only pay they received was room and board, the work certainly must have been worth while to claim so many enthusiasts.

There were many girls who did clerical work while still others waited table or worked in munition factories, but the work described above was the most popular. The obvious fact about the reports is that the girls no longer care for a vacation of all pleasure but prefer to feel they are accomplishing something.

Miss Martha Van Rensselaer, associate head of the department of home economics at the New York State College of Agriculture, was given a leave of absence March 1, 1918, at the request of Mr. Herbert Hoover, to take charge of the Division of Home Conservation in the United States Food Administration. This leave of absence was later extended to January 1, 1919. While she has returned to her regular duties in the university, she still remains a member of the Food Administration Staff while it is in existence. Miss Van Rensselaer is also a member of the Executive Committee appointed by Mr. Hoover to act in his absence in Europe upon Food Administration questions.

The Division of Home Conservation included the organization of conservation work with the women in the United States and supervision of material for publication as a guide to housekeepers in planning their meals according to the rules of the Food Administration.

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Campus Notes

Eastman Stage Endowed Mr. A. R. Eastman of Water-ville, who for the past few years has been supporting an agricultural speaking stage, has recently endowed it by presenting the College with three thousand dollars worth of Liberty bonds for the purpose. This will increase the prizes somewhat over those of former years so that the first award will now be one hundred dollars and the second twenty-five dollars.

As a result of recent try-outs the following have made the stage, which will be held during Farmers' Week as usual.

P. L. Dunn, '19—Rural Organization.
D. G. Card, '19—Problems of the Young Man Farmer.

Miss C. Leach, 19—Rural Schools.

W. Measday, '19—Reclaimed Land for Returned Soldiers.

C. Johnston, '19—Keeping the Boy on the Farm.

F. H. Bond, '22—Dairymen's League.

New Short Courses On February 24 two special new courses for persons outside of the College will begin. One will be a six day school for commercial beekeepers, the other a month's course in cheese making and ice cream manufacture. Tuition is free in both courses to residents of New York state.

At the beekeepers' school, Dr. E. F. Phillips, George S. Demuth, and George H. Rea of the U. S. Bureau of Entomology; E. R. Root, editor of "Gleanings in Bee Culture," and several prominent New York state beekeepers will be the instructors. This course, given in co-operation with the U. S. Department of Agriculture, has been carefully organ-

ized and will deal with practical problems of the apiary. Similar courses were given in California during November and December and were very successful.

The course in cheese making and ice cream manufacture is open to all those who have had some experience, either in the winter short course of the College or in actual practice. Instruction and practice will be given in the making of several kinds of cheese, such as cottage cheese, baker's cream cheese, neufchatel, pimento and club cheese as well as in making ice cream, sherbert, and ices on a commercial scale. In the ice cream work, hand and power driven freezers will be operated. Of the latter type use will be made of those using ice and salt as a freezing agent and of those using mechanical refrigeration. Application for entrance in the course should be sent to the Dairy Department, State College of Agriculture, Ithaca, N. Y.

The Tractor School The College of Agriculture is offering two schools of three weeks each, the first from January 13 to February 11, and the second from February 17 to March 8. Because of the lack of laboratory space, these schools are limited to twenty-four students each. They are given by the department of rural engineering, under the direction of Assistant Professor Robb and Mr. Fairbanks, and are designed primarily for the practical instruction of tractor operators. The work is given in two lectures daily, and two practice-periods of three hours each. It covers the running, overhauling, and making of repairs, and adjustments, such as valve-

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FORMER-STUDENT NOTES



Former Students Attention

Tuesday of Farmers' Week at the Home Economics Auditorium at 6 P. M.

The speakers are to be President Schurman and Dean Mann. The reception is being arranged by the following committee: Professor Montgomery Robinson, Chairman; R. A. Mordoff, Professor E. E. Barker, and E. V. Hardenburg.

Allen D. Honeywell, ex-'19, of the College of Agriculture, was killed Saturday, January 18, when the aeroplane he was driving fell into the sea at Pensacola, Florida. Honeywell left Cornell and enrolled in the Naval Reserve Force April 9, 1917. He was stationed at Newport, Rhode Island, until April, 1918, when he was accepted for the Naval Reserve Flying Corps and sent to the ground school at the Massachusetts Institute of Technology, Cambridge, Massachusetts. When he finished his work at the ground school, he was sent to Pensacola and commissioned as Ensign in September, 1918. He was twenty-one years old at the time of his death.

In the college "Honey" was well known and loved. He was a member of the "Ag" Glee Club and Sage Choir. Early in January he visited Ithaca while he was on furlough, and said at that time that he intended returning to school next fall and was anxious to take up again his work on the Hill.

Thus, another of Cornell's sons has fought the great battle, and given his all for the glory of his country and Alma Mater, and in the days to come these men will not be forgotten, but their names will live forever as those of heroes.

'90, B. S.—Pierre A. Fish, head of the department of physiology of the College of Veterinary Medicine, was recently commissioned a major in the Veterinary Corps, U. S. Army.

All former students of the Regular, Special, or Short Courses and also members of the Faculty of the College of Agriculture, are cordially invited to an Informal Reception and Supper on

'00, B. S.—Louis C. Graton is professor of economic geology in the Harvard Engineering School.

'08, B. S. A.—Edwin Earle, Jr., is president of the Farm Powder Company of Salisbury, North Carolina.

'09, B. S. A.—Professor K. C. Livermore, of the department of farm management, spent his last summer's vacation on a six-thousand mile auto trip thru the central West. The purpose of his trip was to study farm conditions and methods in that region, and to secure illustrative material for the teaching of farm management work here.

'09, B. S. A.—E. B. McCloskey is connected with the Soils Improvement Committee of the National Fertilizer Association. His address is the Munsey Building, Baltimore, Maryland.

'11, M. S. A.—E. H. Thomson, who is acting chief of the office of farm management, U. S. Department of Agriculture, expects to go on the home farm near Delhi in the spring.

'11, B. S. A.—A. L. Thompson, formerly in the farm management department of the college, was one of the first men in this country to make a statistical study of the cost of milk production. He is now operating one of the largest milk distributing companies in Washington, D. C.

'11, B. S. A.—Carlman F. Ribsam was married on September 19, 1918, to Miss Marie Maloney of Philadelphia. They are at home at 20 Dean Street, Trenton, New Jersey.

'12, B. S.—Edward L. Bernays recently left for England as a member of the U. S. Press Mission to the Peace Conference. He had been working in the foreign section of the Committee on Public Information since the early part of the war.

'12, B. S. A.—E. P. Smith is manager of the Chenango County Farm Bureau, with his headquarters at Norwich.

'12, Sp.—T. E. Milliman is now Assistant State Director of Farm Bureaus, with an office on the second floor of Roberts Hall. He has the supervision of fifteen counties of the state in their Farm Bureau work. His former position as manager of the Orange County Farm Bureau is filled by L. D. Green, '14.

'13, A. B.; '14, B. S. A.; '17, M. S. A.—Leon E. Cook is an associate professor of vocational education at the North Carolina State College of Agriculture. His address is 125 Woodburn Road, Raleigh, North Carolina.

'13, B. S. A.—George W. Kuchler, Jr., is managing a farm near La Grangeville, on which he is specializing in fruit. He has a good herd of registered Berkshires as well.

'13, B. S.—P. B. Barton, who has been farming in Westchester County, has accepted a position as teacher of agriculture in the high school at Castile.

'14, B. S.—Harold K. Rulison is a second lieutenant in the Infantry Reserve Corps.

'14, B. S.—Announcement has been made of the marriage of Francis West Wardle, '14, to Miss Bertha Louise Miller on September 2, last. The ceremony was performed at the home of the bride's parents, Mr. and Mrs. William Emery Miller, Medway.

'14, B. S.—R. R. Jansen, having been discharged from the Army, has been elected teacher of agriculture at Lowville High School.

'14, B. S.—Roy N. Harvey, who has been connected with the Texas State College of Agriculture, is now teacher of agriculture in the Moravia High School.

'15, B. S.—Miss Francis DeMaris Ed-

wards was married to Herman Clock Smith of Ithaca on July 6, last. Mr. Smith is now overseas with the Expeditionary Forces.

'15, B. S.—Wayne H. Darrow is agricultural agent for Floyd County, Texas.

'15, B. S.—Announcement has been made of the engagement of Ross L. Hoag of Deposit, to Miss Ruth Demoney. Hoag is in France with the 102nd Engineers while Miss Demoney entered Cornell as a freshman last fall.

'15, B. S.—Lieutenant H. S. Gabriel was cited for bravery in the last drive of the war. He is now with the Army of Occupation in Germany.

'15, B. S.—J. C. Hurley, who has been teacher of agriculture in the Moravia High School, is now an instructor in animal husbandry at Syracuse University.

'15, B. S.—Roy Olney has resigned his position as teacher of agriculture at Belleville, and is now in the same work in the Trumansburg High School.

'15, B. S.—R. B. Titus, who has been teaching agriculture at Westford, is in charge of the agricultural department of the Wyoming Seminary.

'15, B. S.—E. F. Hopkins, who has been in the Research Division of the Chemical Warfare Service of the Army, is back in Ithaca doing research work for the Department of Plant Pathology. He put in fourteen months in Washington on war gas investigations. He was married in September, 1917, to Miss Hilma Berkholz, '15.

'15, B. S.—Miss Helen T. Blewer is teaching homemaking and chemistry in the Oswego High School. Her address is Mapleville Farm, Oswego.

'16, B. S.—Frederick Spiegelberg, Jr., has been overseas since November, 1917, as a lieutenant in the Aviation Section of the Signal Corps.

'16, B. S.—Miss J. Kathryn Francis is in Mt. Carmel, Pennsylvania, where she is supervisor of the domestic science department of the public schools.

'16, B. S.—Leslie Brown was commissioned on July 15 a second lieutenant in the U. S. Marine Corps.

'16, B. S.—Miss Helen Spaulding is

engaged in organizing a forestry department for the city of Flint, Michigan.

'16, B. S.—J. Curry Hill has been managing a two-hundred-acre farm at Jefferson Valley.

'16, B. S.—Miss Ruth L. Cleves is a manager of a cafeteria in Washington, D. C., for the American Red Cross.

'16, B. S.—William Carver is in Washington, D. C., with the Research Division of the Chemical Warfare Service of the Army, working on war gas investigations.

'16, B. S.—H. E. Bremer is superintendent of the Cow Testing Association of the State of Vermont. His address is Montpelier, Vermont.

'16, B. S.—Gertrude Button was married on July 13 to Lieutenant Merriam G. Lewis, at Lawrenceville, Va.

'16, B. S.—W. D. Chase is manager of the Seneca County Farm Bureau. His headquarters are at Romulus.

'16, B. S.—R. C. Parker is manager of the Suffolk County Farm Bureau. His address is Riverhead, Long Island.

'16, B. S.—H. J. Evans is manager of the Nassau County Farm Bureau. He lives at Mineola, Long Island.

'16, B. S.—Lieutenant Newton Chauncy Rogers, formerly reported missing in action, is now reported by the War Department as having died in Germany, date and cause unknown, notice of his death having been dropped within the American lines from a German airplane.

'16, B. S.—Announcement has been made by Professor and Mrs. H. F. Button of Farmingdale, Long Island, of the marriage of their daughter, Gertrude MacCartney, to Lieutenant Merriam G. Lewis of Lawrenceville, Virginia, on July 13. Mrs. Lewis is continuing her work as county home demonstration agent at Emporia, Virginia.

'16, B. S.—P. R. Young has left his position as principal of the intermediate school at Burnt Hills to take up the teaching of agriculture at Highland.

'16, B. S.—W. B. Cunningham is teaching agriculture at the Theodore N. Vail School of Agriculture at Lyndonville, Vermont.

'16, B. S.—Max Abell, formerly an instructor in farm crops, is at the Marine Flying School at Jamaica.

'16, B. S.—L. G. Knapp is at Camp Travis, Texas, having received the commission of Captain, U. S. A.

'16, B. S.—L. A. Zimm, Lieutenant in Heavy Artillery, is at Fortress Monroe.

'17, B. S.—Alice Van Scoy was married on March 27 at Candor to Lieutenant Addison B. Crandall who has just returned from France. Mrs. Crandall is continuing her work as Junior Extension Specialist in the Department of Home Economics at Cornell.

'17, B. S.—Elizabeth M. Abbuhl was married on June 30 last to Dr. Don A. Boardman.

'17, B. S.—Lloyd B. Seaver was a second lieutenant in the U. S. Air Service.

'17, B. S.—The announcement has been made of the marriage of Alice Brewster, '17, to George C. Porter on September 25 at Cornwall-on-the-Hudson.

'17, B. S.—Alice Blinn is extension instructor in the department of home economics at Cornell. She is also assisting in editorial work.

'17, B. S.—Anna Bristol was married to Stanley B. Hall on May 30 at Waverly, Mass. Mr. Hall is at Camp Devens.

'17, B. S.; '20—Miss Helen Lurinda Adams and Harry Griswold Chapin were married on October 1, last. They are living at Watkins where Chapin is connected with the Farm Bureau.

'17, B. S.—Miss Helen May Brewster of Cornwall and George C. Porter were married on September 25. They are making their home at Upper Lisle where Porter is manager of a four-hundred-acre dairy farm.

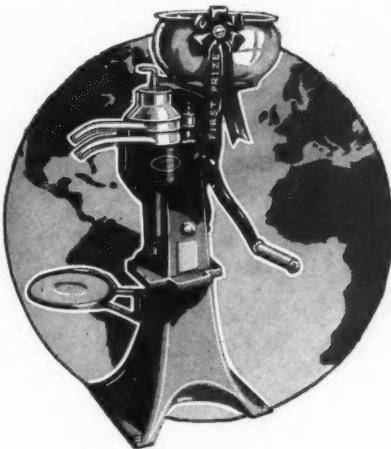
'17, B. S.—Charles F. Cochrane is manager of the Ulster County Farm Bureau.

'17, B. S.—Ensign Leslie Brown is married and living in New York City.

'17, B. S.—H. E. Allanson is Assistant Director of Extension at Virginia Polytechnic Institute at Blacksburg, Virginia.

'17, B. S.—Miss Marjorie L. Sewell is a special worker with the Y. W. C. A. in New Jersey.

'17, B. S.—A. W. Gibson is managing an estate at Petersburg, Virginia.



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'17, B. S.—A. H. Brooks is in the nursery business with his brother at Monroe.

'17, B. S.—Lowell L. Andrus died of influenza at the Great Lakes Training Station, Chicago, Illinois.

'17 and '18, B. S.—Announcement is made of the engagement of Sergeant-Major Douglas S. Dilts and Miss Edith M. Rulifson of Cortland. Miss Rulifson was formerly home economics editor of the *Countryman*.

'18, B. S.—Esther Grimes is training for nursing at the Philadelphia General Hospital, Philadelphia, Pa.

'18, B. S.—Lillian Stevens is in Ithaca in charge of the new cafeteria on the Heights.

'18, B. S.—C. H. Gilman, Lieutenant of Aviation and last stationed at Camp Lee, Virginia, has received his discharge and accepted a position as food chemist at the factory of the Nestles Food Company in New York.

'18, B. S.—H. A. Gordon has won an ensign's commission in the U. S. Navy.

'18, B. S.—Girard Hammond is working in the offices of the Dairymen's League, 303 Fifth Avenue, New York City.

'18, B. S.—Miss Marcia Grimes is assistant emergency home demonstration agent for Onondaga County. Her address is in care of Mrs. Gillette, 305 E. Kennedy Street, Syracuse.

'18, B. S.—J. Brachin Kirkland is instructor in charge of farm practice work in the College of Agriculture.

'18, B. S.—Glenn W. Sutton has been traveling in Wisconsin and Minnesota, mapping new roads for the automobile blue book.

'18, B. S.—James L. Strong is running a farm at Turrin.

'18, B. S.—Miss June Brown is teaching chemistry, biology, and sewing in the Savannah High School.

'18, B. S.—George Turner Dibble of Lima was married on September 2 to Miss Alice Frances Braumiller, a nurse in the Student Infirmary, University of California.

(Continued on page 56)

Leveling for Drainage Purposes

(Continued from page 9)

the tripod legs can be made by anyone familiar with the use of a carpenter's tools. A cheap and yet satisfactory leveling rod can be made by tacking or glueing a strip of rod ribbon** to a narrow board. If one has a carpenter's level, the other parts for this outfit will cost from three to five dollars.

If better instruments are desired a substantial level and rod may be purchased for about twenty-five dollars. With this level and rod one can do work that is satisfactory for many of the smaller drainage problems; it will also be found very convenient in laying out stable floors and foundations for buildings.

** Chicago Steel Tape Co., Chicago, Ill., and most makers of surveying instruments.

Artificial Light, an Aid to Egg Production

(Continued from page 10)

squirrels and many other animals. Not being able to migrate to more favorable environments like some of her distant bird relatives, and not being able to change her clothes to conform to the season's styles as many of her animal companions and human friends find it possible to do, she simply makes the best of it and "grins and bears it." She hibernates unless her progressive owner gives her the normal light conditions of spring during the dark winter months. The owner could accomplish this either by transferring the hen in the fall of the year to a more congenial southern climate where the nights are shorter, as in Florida, which some persons have done with success, or less expensive and more practical, by providing enough light either in the evening or in the morning, or both. The hens can then see to eat and work. The time between meals should never be over ten to twelve hours, so that the available feed and water supply is brought within her digestive range. She is thus permitted to get sufficient exercise to enable her to be warmed up from the inside by

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for the World*

Rochester New York



muscular exertion, which in turn appears to increase the appetite, good health, and to induce greater production.

The hen millennium has not yet arrived, but it is a good deal nearer than it was a few years ago when man, with all his boasted pride, could not make a hen lay when eggs were selling at a dollar per dozen, but contented himself with telling how many eggs he made his hens lay during the spring of the year when the conditions were right. Hens could not help but lay. True, in some instances, a few wise and industrious poultrymen having superior hens have been able to work out a combination of hatching and correct methods of feeding and housing which materially overcame some of the natural hen handicaps to winter egg production. But the proper use of artificial light is a wonderful aid even under these conditions. The place, however, where the most marked results are seen, is in the more rapid development of late maturing pullets and hens which under normal conditions, would not have laid until toward spring. Here

the difference in production, due to the use of artificial light, is truly surprising. Here, also, is where the largest profits are to be made by aiding the hens to lay the eggs in the fall and winter months when they are normally the highest in price, instead of boarding the hens until spring, only to get the same eggs when they are cheap. Then, moreover, nearly as many eggs are produced in the spring as if they had not laid during the fall and winter. Those which have ceased to lay in the spring after a long winter of heavy production, can be sold on a higher priced market than was available for the same fowls in the previous fall.

Nevertheless, all of the problems in the use of artificial light to increase egg production are not yet solved. For the present, at least, one should hesitate to apply in large amount the lights to the breeders very far in advance of the hatching season. This and the best method of feeding in connection with lighting, the best time, method, quantity, and most desirable form of illumination to use are under investigation at the

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Dinner	-	-	12:00-1:45
Supper	-	-	5:30-7:00

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for herd of pure-breds or other cattle.

Inquire on the premises or address

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to keep their milk cans and other milk utensils in proper sanitary condition to aid them in obtaining this quality.



Order through your supply house, and demonstrate to your own satisfaction.

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Wyandotte, Mich.

present time. The results of these investigations will soon be published in an early issue of the Countryman and in extension bulletins by the College. Meanwhile more light on a dark subject, which is just entering the dawn, is needed.

Central Packing House Associations

(Continued from page 12)

led to the adoption and use of a brand with which all packages which conform to the standard were labeled. Many individuals in the past have used their own mark or brand. As soon as it becomes known they usually secure a premium for their fruit on those markets where it is known. The larger the quantity of fruit packed under one brand, the wider will that brand be known and the more general will be the premium which it will command.

Quarter Inch Sizing

Another ideal which the growers of Niagara County have had in mind is the quarter inch sizing of apples and peaches. This means that they have in mind the sizing of their fruit in such a way that no package will contain fruit which varies more than a quarter of an inch in size. They have believed that the reason western apples are so much in demand is not primarily because they are packed in bushel boxes, but because they are uniform in size. The proprietor of a restaurant who buys apples for baking must have them all the same size or there is apt to be fault finding among his customers. The proprietor of a little fruit stand buys western apples because he knows just how many there are in a box, and he knows how much he must sell each apple for in order to make a profit. Aside from these inducements in favor of quarter inch sizing, there is the argument that the old style of packing apples with all sizes in the barrel makes a most unattractive package, the large apples making the little ones look small, and the small ones making the large ones look coarse. Quarter inch

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3. **Keeps the boys and girls on the farm**—Electric service on the farm offsets city attractions. Valuable labor and valuable young manhood and womanhood are saved to the country community.
4. **Solves the retired farmer problem**—Electric light and power make the farm home so attractive and comfortable that the farmer and his wife remain on the farm where their advice, experience, and immediate interests are of great practical value.
5. **Lightens burden of the housewife**—Increased farm work in war times means increased labor for the housewife. Electricity offers the only practical means of taking the drudgery of household tasks from her shoulders.

Delco-Light is a compact electric plant for farms or country homes. Self-cranking. Air-cooled. Thick plate, long-lived battery. Ball bearings. No belts.

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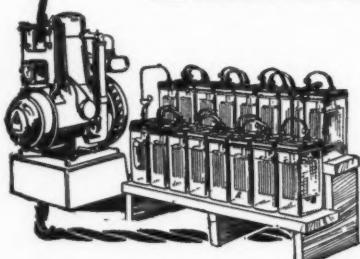
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The Lansing Tile Block Silos are better and more beautiful than others. The blocks are uniform in color. Only a thin line of mortar is exposed between them. Gives a smooth wall inside—better settling of silage—less chance for frost.

Tile has that invincible quality that knows no age. Wood can decay, rock can crack and crumble, steel and iron can rust away—**Tile lasts.**

Lansing Tile Silos are unaffected by weather changes—have no up-keep expenses, no hoops to tighten, no painting—the low first cost is the **last**.

The Lansing Block. Note fluting in block to prevent mortar from slipping. Blocks set together—tile braced against tile.

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sizing of fruits is impossible on an individual farm except in those cases where there is a large quantity of fruit produced.

Labor

It is reasonable to assume that labor is more available in the village or at the railroad station where a central packing house normally will be built than on the individual farms. It is also reasonable to assume that greater efficiency of labor will develop where each person does just one thing and gradually becomes highly skilled at that one operation. This factor has largely been responsible for the passage of the cobbler shop and the development of the shoe factory. There are many communities in the fruit growing section of western New York which have been watching these organizations with keen interest, and there are many which will probably take some action along similar lines this summer. We can not urge too strongly that some communities get started immediately. The Farm Bureau offers a most excellent organization to do this work, not because the Farm Bureau Manager will do the work; but because the Farm Bureau organization provides a machinery thru which the growers themselves can work.

One of the first steps to be taken is to find out the facilities at the loading station where a building can be purchased or rented, or where one will have to be built. It is usually advisable to build these adjoining a cold storage plant for very obvious reasons. When the cost of the building has been ascertained, prospective members of an association should be approached, and this is a matter requiring considerable care. The number of members will depend on the size of the building available and the amount of fruit which each man normally provides. It might be well to mention as a guide on this matter that it has been the experience in Niagara County that a building 50x100 feet and equipped with one mechanical sizer, will handle from four to six hundred barrels of apples a day, and will turn out during a season approximately twenty thousand barrels of apples and fifty thousand



From One Anvil

—there has developed a city of factories that sing today with the noise of many anvils.

At the one anvil, eighty years ago, John Deere built the world's first steel plows.

Back of the building of these plows were original ideas of design and construction that brought success from the start. The world liked John Deere plows and continued to like them.

From the one anvil in a little shop there grew a great plow factory. Around this factory there grew a group of other factories, each devoted to the manufacture of a particular class of farm tools for the John Deere line. And each of these tools for years has rivaled the great John Deere plows in point of worth and popularity.

Long life and continued growth in any line of manufacture depend mainly upon simple honesty—upon holding rigidly to the rule of quality first. Time has fully tested each and every John Deere tool and has given it Prestige—Time's badge of quality and success.

And Time's verdict today will be the verdict in the future so long as mankind gives to quality the recognition that is its due. Each coming year will see, as the years in the past have seen, continued growth of the great industry that was started eighty years ago when John Deere honestly and painstakingly put superior quality into the plows that he made in his little shop of one anvil.

JOHN DEERE, MOLINE, ILLINOIS

bushels of peaches. The cost of such a building built of wood, as shown in the picture of the Ransomville Association's building, is approximately \$2500.00. The mechanical sizers and other equipment will probably total another thousand dollars.

Cooperative Selling

The key note of this work in Niagara County has been central packing and not cooperative selling. At last the growers have put the horse before the cart and have united to put up a standard, uniform, reliable, "the-same-all-the-way-thru" pack. The matter of cooperative sales is of secondary importance. However, the fact that they have a standard pack and a quantity of it makes cooperative selling very possible and quite advisable. Cooperative sales will probably need several years of development to be a big success in the east. The time is now right for central packing. The growers of Niagara County are al-

ways glad to hear of another loading station which desires to start a packing house. Each new association makes their own that much stronger. Niagara County growers have already gone into several of the surrounding counties to tell of what they have done.

Cooperation Among Plant Pathologists

(Continued from page 18)

disease control. Like every one else, they sought to answer the call to get together, to pull together. The pathologists of the country, some two hundred and fifty strong, responded almost to a man. The country was divided into six districts with a commissioner in each. Canada joined, making seven, and the eighth commissioner represented the Federal pathologists. A series of conferences, one in each district, was held to which all pathologists in that area were invited. The attendance varied from twenty to sixty. Practically every institution in which agricultural work

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HAS malleable iron frame. Has malleable iron handle gear. Has two gates, one for grain and one for grass seed. Has arms in discharger which act as brace and *evenly distribute the seed in front of operator and not against his person*. Has wire bound napper which strengthens and stiffens it to prevent damage.

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is conducted responded by sending one or more representatives. The problems of most general and pressing importance were considered and discussed. Every bit of information published or unpublished, every idea, indeed every "hunch" that might contribute to the solution of the problems were freely put before the conference. The spirit of every meeting was: all your cards on the table, every one of them, faces up. And the workers responded in a manner most astonishing and most gratifying. The individuals interested in a given problem constituted themselves a project committee, elected a leader from among their number and at once laid plans for united attack upon the problem to be solved. By the coordination of district projects thus launched, the Board effected the organization of general projects of wide application and special importance in the national emergency. Space forbids even the enumeration of the more important of these. The Board issued a mid-year report in which

these are detailed and will soon distribute a final report of the year's work.

As illustrative of what was accomplished, I may be permitted to mention two of these undertakings. Workers from fifteen states and from the federal government planned and carried thru cooperatively a most extensive series of investigations on cereal seed treatment with the result that in one year we have virtually agreed upon a single, simple, safe, and most effective method of general application for the control of the oat smuts. This method, the so-called dry formaldehyde treatment, may now be recommended with confidence wherever oats are planted. Not only is it effective, but simple and cheap and as nearly fool-proof as possible. The grain may be treated at a cost (including materials and labor) of less than three cents per acre. Under the old system, twenty years would have been required to accomplish what has been effected in one. Was this not worth while? Have not we, both plant doctor

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Figures prove that profits in farming
increase in proportion to the education
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Send to the New York State
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for announcement of courses

and farmer, profited thereby? Cooperation did it.

Another case was of a different sort. The potato crop was (and is) of vital importance to the nation. Evidence indicated that heavy losses are suffered yearly from two diseases of which little was known, and that largely fragmentary, scattered or unpublished. The Board brought together in Buffalo in August, 1918, over thirty of the potato pathologists of the United States and Canada for the consideration of these diseases. In a conference of two days' duration these thirty pathologists in free and open exchange of facts and ideas made more progress toward the solution of the difficult problems of leaf roll and mosaic than would have been accomplished by them in five years of individual reflection in the solitary confinement to which they are accustomed to sentence themselves. Definite projects were organized, leaders chosen, and plans for cooperative attack were made

for next year. Before they parted, a concise summary of our knowledge to date of these diseases was prepared. This was distributed to all plant pathologists of the country within a month.

These are but outstanding examples of what cooperation among groups of scientific men has accomplished and argue well for what may be expected in the future. That the spirit of cooperation has been stimulated and strengthened among us is reflected in the continuation of this Board under a name more appropriate for days of peace but with the same purpose and the same ideals, namely the stimulation and development of cooperative research and undertaking among the plant pathologists of this continent. As the Advisory Board of American Plant Pathologists, it is made a permanent feature of the organization known as the American Phytopathological Society of which Dr. G. R. Lyman of the U. S. Department of Agriculture is the new chairman.

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comes in contact with tools and materials that aid in efficiency and convenience about the farm. He misses them upon his return home from college and often wishes he had some of the things he had or saw while there. We maintain a **Mail Order Department** and solicit your inquiry regarding such items. We carry all **Agricultural Books, Poultry Knives in Sets, even the Dairy and Farm Suits.**

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The Farm Garden in New York State

(Continued from page 19)
 desire to grow all the vegetables listed, nor will all families require the same amount of any crop, but the estimates given will be a guide. For ordinary requirements the entire supply of seeds of snap beans, peas, beets, sweet corn, lettuce, and radishes should not be planted at one time, but successive plantings should be made at intervals of two to four weeks, so that a fresh supply of vegetables may be had throughout the season.

Varieties of Vegetables

In selecting varieties for home use, quality should be given first consideration. The following varieties of the various vegetables are considered to be among the best:

Beans, string or snap—Stringless Greenpod, Wardwell's Wax, Refugee.

Beans, Lima—(bush) Henderson's Bush Lima; (pole) Early Leviathan, King of the Garden.

Beets—Crosby's Egyptian, Detroit Dark Red.

Cabbage—(early) Jersey Wakefield, Copenhagen Market; (medium) Enkhyizen Glory, Succession; (late) Danish Ballhead, Drumhead Savoy.

Carrot—Chantenay, Oxheart, Danver's Half Long.

Cauliflower—Dwarf Eyfurt.

Celery—Golden Self-Blanching, Winter Queen.

Corn—sweet—(early) Golden Bantam; (medium) Seymour's Sweet Orange; (late) Evergreen, Country Gentleman.

Cucumbers—White Spine, Davis Perfect.

Lettuce—Grand Rapids, May King, Big Boston.

Eggplant—Black Beauty, New York Improved.

Onions—(green onions) Silver Skin, White Portugal; (for mature bulbs) Globe Danvers, Southport Yellow Globe.

Peppers—Chinese Giant, Bullnose, Ruby King; (hot) Cayenne, Red Chili.

Peas—(early) Nott's Excelsior, Gradus, Thomas Laxton; (late) Telephone, Champion of England.

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Radishes—French Breakfast, Scarlet Globe, White Icicle.
 Spinach—Savoy, Bloomsdale.
 Tomatoes—(early) Earliana, Bonny Best, Chalk's Jewel; (late) Stone, Globe.
 Turnips—White Milan, Purple Top; (rutabaga) Improved American, Breadstone.

The Farm Seed Catalog

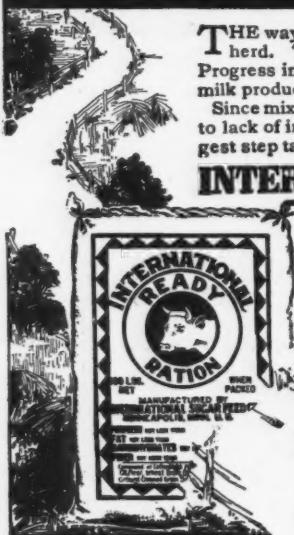
(Continued from page 17)

wheat discovered in the tomb of an Egyptian mummy or the corn uncovered among the ruins of the Moundbuilders? The fact that the power of germination in these seeds exists a few years at best was lost sight of in the claim of several thousand years of existence wherein the seeds had lain dormant. The element of romance appears in the following headlines of a farm seed catalog. "The seed of mystery brought by a sea gull." "Best dry weather producer in existence." "Opportunity knocks at your door with sledge hammer blows."

It is fortunate for the farmer who trusts to seed catalog information that not all are of the above type. I have a catalog before me of a western seed house. Its cover design is a marvel of the illustrator's art. The book is well illustrated with photographs, not fanciful sketches. Descriptions are brief and to the point. Special attention is paid to the history and origin of varieties, and no extravagant claims regarding yields are made. Prices are extremely reasonable.

This seed firm keeps in close touch with experimental work in the neighboring states. For years, it has carried on research work of its own and, as an instance, by means of hybridization and selection has developed several desirable varieties of corn. Special attention is paid to the adaptation of varieties to climatic conditions, and the customer is given the limitations of the variety as well as its good points. It is an agreeable surprise to find this seed firm actually quoting figures on the compara-

The Road To Bigger Dairy Profits



THE way to success in milk producing lies through care of the herd. The biggest essential of proper care is proper feeding. Progress in improving the ration means progress in increasing milk production.

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Ask Professors Whetzel or Hardenburg or the
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SEED OATS**

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These are *Selected Stock* from
which false oats, light oats and
pin oats, have been removed,
leaving only the best heavy oats.
If you plant oats to raise oats
and get the largest returns for
your work and investment, it
will pay you to plant only seed
that will grow and produce
strong plants. False and light
oats will not grow. Good oats
with strong germinating qualities
insure larger returns.

FRONT

BACK

Selected Seed Oats treated for smut should be used. The Department of Agriculture and Farm Bureau Agencies strongly recommend planting treated oats as it insures increased production with no added expense aside from the slight difference in cost.

These oats are sold either treated for smut by approved government method or in their natural state.

If "treated" it will say so on the tag.

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Represented in Philadelphia by M. F. Baringer, 503 Bourse Building.

WANTED — Salesman to sell dairy barn equipment. Experience in selling desirable but not absolutely essential. Experience in dairy farming an asset. Positions in other departments of our business open from time to time. When applying, state age, married or single, references, past experience, in first letter. Address James Manufacturing Company, Fort Atkinson, Wisconsin.

tive water requirements of corn varieties.

The need of standardizing varietal nomenclature is very apparent on the perusal of the average farm seed catalog. Despite its faults, however, it represents a real contribution to our agricultural knowledge. Much good to the farming interests of the country would result if greater cooperation existed between the colleges of agriculture and experiment stations and the commercial seed house.

The Farm Home

(Continued from page 22)

The Division included an experimental kitchen where substitutes were tried and recipes formulated both for small quantity and large quantity cooking. The staff of food specialists was added to the Division for this purpose. In connection with the laboratory for large quantity cooking, a cafeteria was organized to furnish meals to the Food Administration staff. The cafeteria for several months has furnished twelve hundred meals daily. In addition, there were two trained nurses on the home conservation staff to administer to the emergency needs of the staff.

The Division of Home Conservation had a representative in each state called a home economics director, who had charge of the work of women in the state as it related to home conservation. The home economics director was a member of the staff of the State Food Administrator and was usually a trained home economics woman and connected with the State College.

Campus Notes

(Continued from page 23)

timing, engine testing, and ignition principles.

The work of the first week consists of overhauling the machines as an owner would do on the farm and replacing badly worn or broken parts. The second and third weeks are given to mechanical

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- ¶ WE have also been told that as a horse feed it has been found to be excellent, keeping the animal in a fine sleek condition.
- ¶ PROF. SAVAGE, of Cornell, is the author of the formula, and in stating this fact nothing more in its favor need be said.
- ¶ WE are now shipping FERTILIZER. Orders are coming in promptly and we are getting them out likewise. Remember that we were the first to break the trust prices on fertilizer.

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Hartford, Conn.

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principles and adjustments, the finer replacement work, and driving practice on the roads with a load. For the practice work the students are divided into squads of four each. In this way, each man has an opportunity to become familiar with more than one make of tractor. The tractors used in the school are those which the State Food Commission loaned to farmers the past summer. Thus the students are working under actual service conditions—on machines which have seen active duty in the field.

Both the schools thruout the state and those at the College are free to residents of New York State.

The "Ag. Library" has long been overcrowded and we are glad to learn that plans are under consideration to remove the plant physiology laboratory to other quarters, thus leaving space for the expansion of the library.

Dr. Knudsen who has been in the Y. M. C. A. service in France for over a year, is now back at his work in the department of plant physiology. Mr. Benson is now in Washington at the Bureau of Plant Industry.

Different members of the department of rural engineering have been lecturing thruout the country: Mr. J. L. Strahan before the American Society of Agricultural Engineers at Chicago, Illinois, Dec. 31, 1918, on the subject of "Barn Roof Design"; Assistant Professor Robb on "Drainage" before the New York State Agricultural Society at Albany, January 15; and Professor H. W. Riley on "Tractors and Farm Machinery" at Columbia University January 17.

At the ninth annual meeting of the American Farm Management Association, held in Baltimore, Maryland, on January 8, 9 and 10, Cornell was well represented. Professor K. C. Livermore of the department of farm man-

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agement department is the secretary-treasurer of the Association. Professor G. F. Warren, of the same department, talked on "Some After-the-War Problems in Agriculture." Professor M. C. Burritt, of the extension department, was one of the leaders of a discussion on "Constructive Criticisms of Extension and Demonstration Work in Farm Management, Based on Apparent Results to Date." H. B. Munger, '12 B. S., of the department of farm management of the Iowa State Agricultural College, gave the report of the committee on investigations, and F. A. Pearson, '12 B. S. A., now of the department of dairy husbandry, University of Illinois, talked on "The Principles Involved in Fixing the Price of Milk." Mr. Pearson's investigations of economic problems in the dairy industry of Illinois have been very useful in the adjustment of Chicago milk prices. Frank App, who took graduate work at Cornell and is now in the agronomy department of the New Jersey Agricultural College, spoke on "General Crop, Dairy, Truck, and Potato Farms in New Jersey." D. S. Fox, '13 B. S., now of the agronomy department at Pennsylvania State College, participated in a discussion of "Economic Studies of Farm Tractors." Mr. Fox, during the past summer, made an economic study of tractor operation in Pennsylvania.

At this meeting the name of the organization was changed to The American Farm Economic Association.

One of the best of the Farmers' Week exhibits is the model of a country school house and grounds which is in the plant propagation greenhouse. The interesting fact about this object lesson in good taste and economy is that the original of the model exists in this state, and the community owning it was helped to choose and make use of native trees, shrubs and ground cover material by the extension agent of the department of landscape art. The school house occupies a plateau flanked on the southeast

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Board by the week and month can begin with any meal. Four or more can reserve a table for each meal.

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by a hillside of hemlocks and pine and separated from the woods by a shallow brook in an open glen. Near an evergreen thicket to the northward the brook breaks into a cascade and the glen into a moss-covered gorge.

The new Bausch and Lomb ballopticon outfit in the head-house lecture room is one of the most welcome acquisitions of the department of floriculture. More than a hundred lantern slides have been collected and lectures are given interest by these means.

The New York Federation of Horticultural Societies and Floral Clubs will be entertained by the department of floriculture at its meeting on Tuesday, February 11.

The Cornell Foresters met in their club room on the evening of January 7 for the first time in eight months. The "frosh" soon had a crackling red blaze going in the fireplace, and the old time "pep" came back with a bang. Professors Hosmer, Collingwood, Chandler, Adams, and Mr. Guise each made a few remarks. Professor Wright, of the zoology department, an old friend of the Cornell Foresters, gave an enthusiastic address, dwelling chiefly on the relations between students and professors in forestry as well as in other courses. Elections for the current term were as follows: President, C. W. Ten Eick, '20; Vice-president, R. R. Zilevitz, '20; Secretary, A. S. Hertzig, '21; Treasurer, G. H. Peters, '21. After the appointment of new committees, the business meeting adjourned for a social evening.

The eleventh annual Veterinary Conference, which was held in James Law Hall for two days, beginning Thursday, January 16, was the largest and most successful one ever held here. There were nearly four hundred visitors from all parts of the state, and the speakers included Commissioner C. S. Wilson, and John W. Adams, of the University of Pennsylvania.

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The Cornell unit of the Reserve Officers Training Corps has moved its headquarters from the old Armory on Central Avenue to the new State Armory which was occupied during the war by the Aviation Section of the Army.

During the past summer the farm management department, under the direction of Mr. C. P. Clark, conducted a statistical survey of a part of Tompkins County. The purpose of this survey was to estimate the changes in the agricultural situation in the county as well as on the individual farms. The work covered a part of the same territory that was covered by a similar survey in 1908, making a valuable comparative record of agricultural conditions.

A joint meeting of the Western New York Horticultural Society and the New York State Fruit Grower's Association was held at Rochester January 15-18. At this meeting the two organizations were merged into the New York State Horticultural Society. The keynote of the meeting was co-operation, and there were several interesting reports from men who have been directly concerned with co-operative enterprises among farmers and fruit-growers. Senator Gore of Oklahoma, chairman of the agricultural committee of the Senate, was one of the speakers; Professor Chandler, of the pomology department, gave a talk on “The Effect of the Severe Winter of 1917-18 on the Fruit Industry and Its Lesson for the Growers.”

There are several new members of the Home Economics staff.

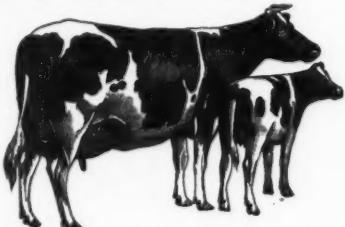
Miss Lulu Graves is giving very interesting courses in Diet and Disease. Before coming to Cornell, she was for some time doing metabolism work in Chicago and in the Lakeside Hospital at Cleveland. Miss Graves is also president of the American Dietetic Association and editor of the Dietetic Department of “The Modern Hospital.”

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Former Student Notes

(Continued from page 28)

'17, B. S.—Stanley H. Sisson has been
on the U. S. S. Wainwright operating in
foreign waters. He has a grade of
lieutenant.

'17, B. S.—Lewis E. Walker was mar-
ried to Miss Mary Cummings of Sayre,
Pennsylvania, on August 12, last. He
is managing the home farm near
Waverly.

'17, B. S.—Lieutenant L. V. Wind-
nagle was in Ithaca early in January on
his way home from a year's service with
the Aviation Corps in Italy. His ad-
dress is 1068 East Taylor Street, Port-
land, Oregon.

'17, B. S.—William Maier, who has
been teaching agriculture at the Lake
George High School, is now in the same
work in the Chazy Consolidated School
at Chazy.

'17, B. S.—Franklin Brown is em-
ployed by the Nestle's Food Company as
a chemist.

'18, M. S.—E. C. Auchter, who was
formerly at the University of West Vir-
ginia, has accepted a position as head
of the department of horticulture at
Maryland State College.

'16, B. S.—C. L. Thayer has returned
from six months in the service and has
resumed his instructorship in floriculture.

'18, B. S.—E. F. Artschwager is as-
sisting in plant physiology.

'18, D. V. M.—H. J. Metzger has been
discharged from the Veterinary Corps
of the Army and is at his home at
Groton. He expects soon to start prac-
tising as a "vet."

SPINACH GROWERS, ATTENTION!

264 bushels of Spinach sold from $\frac{1}{2}$ -acre of ground September, 1918; 1157 bushels
sold from $\frac{1}{2}$ -acre October and November, 1918, for \$864.00. Can you do it with
ordinary Spinach Seed? I never could approach it until I grew my own seed. I have
a large surplus this year, the very same that grew the above crop (Westlook Farm
Strain Bloomsdale Savoy). Do you want some of it at a fair price? 10 lbs., 80c;
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The use of Calcium Arsenate for spraying apple and other fruit trees has recently become of general interest. It is not suggested that this newer material is superior to Lead Arsenate although it has some advantages, notably, cheapness, in its favor. We have been making Calcium Arsenate for some years; in fact, it was actually produced in our factory before the material was otherwise known commercially. This early interest of ours together with our large and continuous production has enabled us to perfect our process and to bring our standard of quality to a logical, scientific and practical basis.

Calcium Arsenate contains the same poisoning principle as Lead Arsenate but to a greater extent. Lead Arsenate is about 30% Arsenic Oxide whereas our Calcium Arsenate is 40%; and in a general way the price is about one-third less than that of Lead Arsenate. In other words, the unit of poisoning power in Calcium Arsenate is about one-third more than that in Lead Arsenate.

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'18, B. S.—Miss Maxime E. Montgomery is supervisor of homemaking in the Vocational School, West Sunbury, Pennsylvania.

'18, B. S.—Miss Miriam C. Jones is dietitian in the Akron City Hospital, Akron, Ohio. She recently completed a three months' training course at that institution.

'18, B. S.—Joseph Herr is studying the practical points of dairy and fruit farming on a farm near Lockport. His address is in care of H. O. Aiken, R. F. D. 3, Lockport.

'18, B. S.—James J. Barr is managing a 150 acre farm for his father at Narvon, Lancaster County, Pennsylvania. It is mainly an orchard and poultry farm.

'18, B. S.—Ensign J. L. Rothwell, U. S. N. R. F. C. of Bayshore, Long Island, was in town January 22. Rothwell has seen active flying service in France and Italy.

'18, B. S.—Esther Royce is assistant county home demonstration agent in Monroe County, her office being with the Farm Bureau in Rochester. Last summer Miss Royce assisted Anna Kerr who was home demonstration agent in Seneca County.

'18, B. S.—Stanley J. Angell is managing his father's farm at Mt. Upton.

'18, B. S.—Miss Ivalo B. Hugg is teaching chemistry in the Oneida High School, Oneida.

The new instructor in institutional management is Miss Maude Sanford who was the manager of the cafeteria of the B. F. Goodrich Rubber Co. in Akron, Ohio.

Miss Helen Mousch is the new assistant professor in the foods department. Miss Mousch was formerly head of the food department at the Iowa State College, Ames, Iowa, for three years before coming to Cornell.

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You remember last winter when the snow was deep and the railroads were blocked, what difficulty many farmers and dairymen had in securing feed for their stock. Avoid a repetition of a similar condition this year by urging your customers to *order their feed supply now*.

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The principal speakers on the program of the big Semi-Centennial celebration this spring will be Charles E. Hughes, Governor Alfred E. Smith, and President J. G. Schurman. These men will speak at the formal exercises on Friday, June 20, and John R. Mott, '88, will deliver the Baccalaureate Sermon on Sunday, June 22.

The proposed athletic program includes a varsity boat race with Annapolis and a baseball game with Penn, both of which will take place on Saturday, June 21.

This commencement, the 50th in the history of Cornell, will be celebrated on June 20, 21, and 22 with ceremonies that will prove interesting and impressive to anyone who has ever attended Cornell. The Semi-Centennial celebration as originally planned was to have been held last October, the 50th anniversary of the opening of the University. A committee under the direction of Colonel W. H. Sackett, '75, composed of trustees of the University, together

with a committee of Associate Alumni had prepared an extensive program including a football game with Penn, and a huge pageant in the New Armory.

The entry of this country into the great war caused the abandonment of the plans, but with the signing of the armistice, the work of the committees began again and the present plans are the result of their work.

The Kermis play, "The Field of Honor," was written by E. B. Sullivan, '18, who recently returned to college from service as First Lieutenant of Battery D, Seventy-third Field Artillery. Each year it is planned to give a prize for the best play offered by a student of the New York State College of Agriculture. This year none of the manuscripts submitted was deemed worthy of the prize, and it was thought that the program, so auspiciously started last year with Russell Lord's play, "They Who Till," would have to be abandoned.

With little time to complete the play, Mr. Sullivan undertook to write one so that the sequence of these student productions might not be broken. His play proved acceptable to the Kermis committee; rehearsals were started at once, with scarcely enough time to assure a finished production. It has meant untiring effort on the part of all who have had a part in the preparation, and particularly on the part of Professor George A. Everett, who has acted as coach.

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Has a Fuel Cost Record of 32 6-10 Cents Per Acre

Reasons the Frick is the Right Tractor to Buy

(1) Has a four Cylinder, Valve-in-Head Motor. (2) Burns cheap fuel—Kerosene preferred. (3) Three Plow size. (4) Right belt power for farm machinery. (5) Convenient to line up and belt to any machinery. (6) A Four Wheeled Tractor. (7) The Traction Wheels are behind—near the load—where most effective. (8) The operator has clear view ahead. (9) Travels and guides in the furrow, when plowing. (10) The center of draft line corresponds to the center of draft line of 3 Plow Gang. (11) No unnecessary side draft—a saving of fuel and power. (12) Travel-in-the-furrow type insures good plowing. (13) With the travel-in-the-furrow Tractor there is relief from constant guiding. (14) Motor lubricated by both splash system and Force Feed Oil Pump. (15) Transmission Gears are all enclosed and run in oil bath. (16) Two speeds forward, one reverse. (17) Fuel operating cost low as the lowest. (18) Has fuel cost record of .326c per acre. (19) The farmer for many reasons likes the roomy operator's platform. (20) The pivoted front wheel spindles provide a short turning radius. (21) Does well every service for which a Tractor is needed. (22) Is built for hard and continuous work. (23) Has back of it an old-established firm whose reputation is the strongest of guarantees.

In short the *Frick 12-25-3 Plow Kerosene Tractor* is a better investment for the user than any other size or type of tractor made.

Get our Tractor Catalog Prices and Terms.

FRICK COMPANY

(Incorporated)
WAYNESBORO, PA.

SPECIFICATIONS

Motor—4 cyl., 4 cycle, 900 r. p. m. valve-in-head, 4 in. bore, 6 in. stroke.

Drawbar—12 H. P., pulls 3-14 in. bottoms in stiff work.

Brake Horse Power—25 H. P.

Ignition—Kingston high tension magneto with impulse starter.

Carburetor—Kingston, burns kerosene or gasoline; Bennett air cleaner.

Cooling—Water cooled, Perfex radiator, centrifugal pump.

Clutch—Expanding friction shoe type with 3 in. face.

Transmission—Selective type, 2 speeds forward, one reverse.

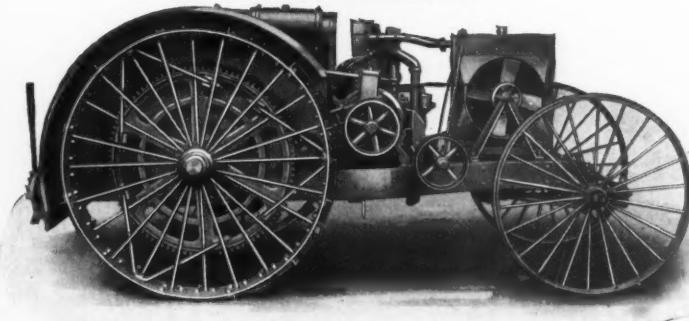
Bearings—Roller bearings thruout excepting main axle which is babbitted.

Capacity Fuel Tank—20 gallons.

Belt Pulley—13 in. diameter, 7 in. face.

Speeds—Forward 2 3-10 miles per hour, and 3 8-10 miles per hour. Backward, 2 miles per hour.

Weight—5800 pounds.



SUNNY CREST S. C. WHITE LEGHORNS



Hen from 10 original line, shows vitality, type and capacity found in our breeding yards
Weight 4½ lbs.

THEY LAY GOOD
THEY WEIGH GOOD
THEY ARE BRED GOOD
THEIR EGGS ARE GOOD
CUSTOMERS-SAY-SO
YOU WILL - SAY - SO



If you purchase from
Sunny Crest 10 original line

Descendant of the 10 original line, shows vitality and capacity from our foundation stock. Weight 4.4 lbs.

SUNNY CREST'S FOUNDATION

10 Hens from 9000 Head at Sunny Crest

The descendants from these have vigor to stand heavy production and still have reserve energy to produce strong offspring; they weigh 4 to 5 pounds, are broad and flat on back over the thighs, deep bodied, full breasted, nice white plumage, lay large chalk fancy white grade eggs.

2000 BREEDING HENS 2000

Mated to Cockerels from Hens with 180 Eggs or Better

Day-old Chix--Schedule

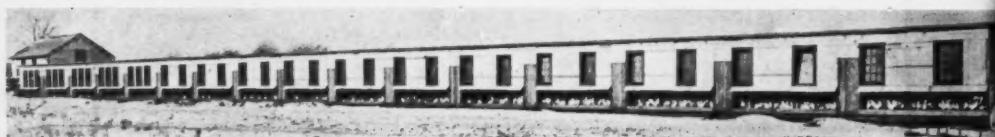
These prices are for 1st grade outside of special matings

		100	500	1000
March 15	10000 Chix	\$25	\$120	\$210
April 7	12000 Chix	25	120	210
April 29	14000 Chix	25	120	210
May 21	14000 Chix	22	110	190
June 11	10000 Chix	20	90	175

Prices on very extra special matings; also 4-6-8-week chicks upon request.
Hatching eggs \$10 to \$50 per 100. Learn about our 10 original line. Send 3c for catalogue, giving prices and valuable information.

R. S. Moseley, Mgr., Sunny Crest Co., East Aurora, N. Y.

Sunny Crest House 290 x 26 feet containing 2600 layers



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